AUTODOC CLUB

How to change engine oil and filter on **BMW E90 diesel** – replacement guide

VIDEO TUTORIAL

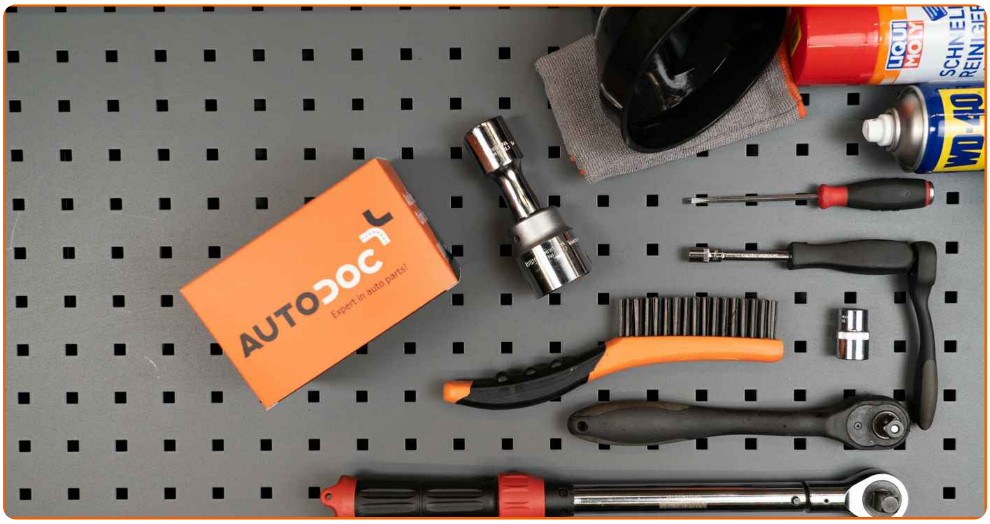


Important!

This replacement procedure can be used for:
BMW 3 Compact (E46) 320td 2.0, BMW 3 Saloon (E46) 320d 2.0, BMW 3 Touring (E46) 320d 2.0, BMW 3 Coupe (E46) 320Cd 2.0, BMW 3 Compact (E46) 318td 2.0, BMW X3 (E83) 2.0 d, BMW 3 Convertible (E46) 320Cd 2.0, BMW 3 Saloon (E90) 320d 2.0, BMW 3 Saloon (E46) 318d 2.0, BMW 3 Touring (E46) 318d 2.0, BMW 3 Touring (E91) 320d 2.0, BMW 3 Saloon (E90) 318d 2.0, BMW 7 (E65, E66, E67) 745d 4.4, BMW 5 Saloon (E60) 520d 2.0, BMW 5 Touring (E61) 520d 2.0, (+ 3)

The steps may slightly vary depending on the car design.

REPLACEMENT: ENGINE OIL AND FILTER – BMW E90. TOOLS YOU NEED:



- Wire brush
- WD-40 spray
- All-purpose cleaning spray
- Drive socket # 8
- Drive socket # 17
- Drive socket # 36
- Flat screwdriver
- Ratchet wrench
- Torque wrench
- Oil drain pan
- Funnel
- Microfibre towel
- Fender cover

BUY TOOLS

Replacement: engine oil and filter – BMW E90. AUTODOC recommends:

- Replace the oil filter every time when changing motor oil.
- Wear gloves to prevent contact with hot liquid.
- Use only new O-rings during installation.
- Warning! Shut down the engine before starting any work – BMW E90

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

1 Open the hood.



2 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.



3

Unscrew the oil filler plug.



4

Unscrew the filter housing cap together with the old filter element. Use a drive socket #36. Use a ratchet wrench.



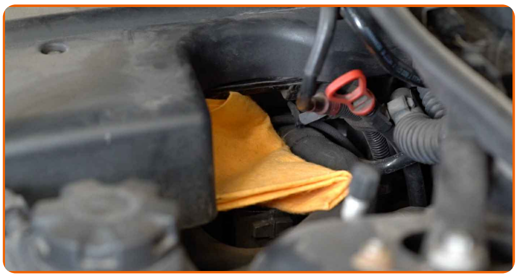
5

Put the old filter cartridge in the container.



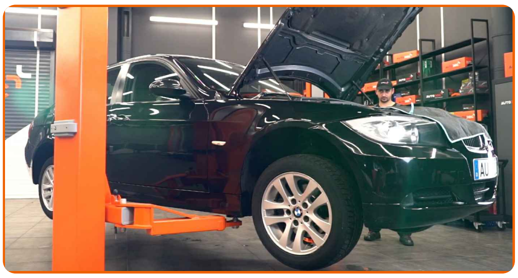
6

Cover the oil filter housing with a microfibre towel to prevent dirt and foreign objects from getting into the system.



7

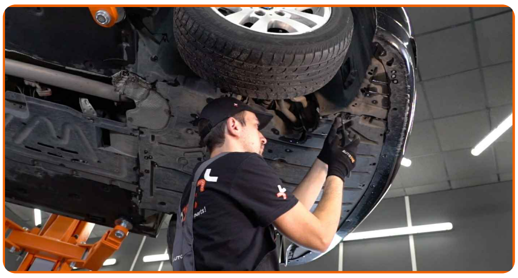
Lift the car using a jack or place it over an inspection pit.



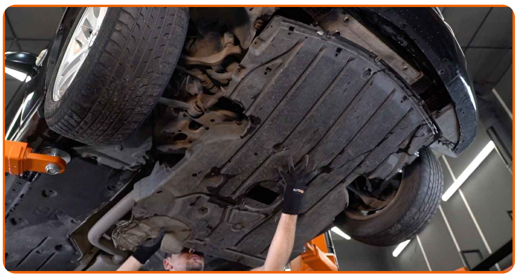
Replacement: engine oil and filter – BMW E90. AUTODOC recommends:

- The vehicle must be on even keel, and if it is at an angle, the drain plug must be at the lowest point.

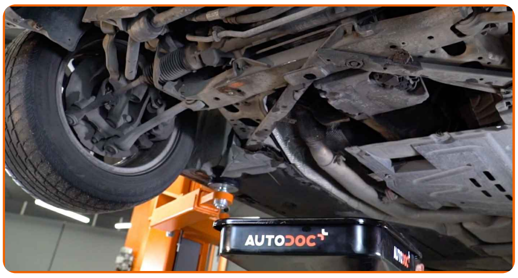
8 Undo the fasteners of the oil pan lower cover.



9 Remove the oil pan cover. Use a drive socket #8. Use a ratchet wrench.



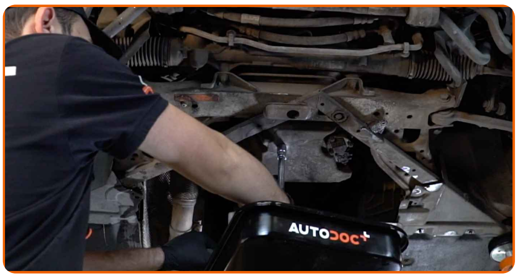
10 Put a waste oil container with at least 6 l capacity under the drainage hole.



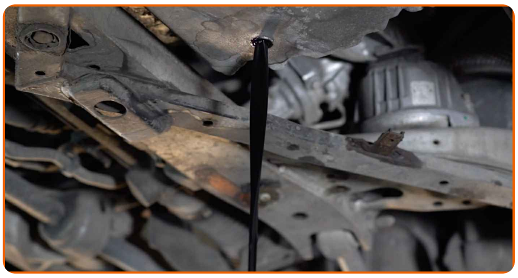
11 Clean the area of the oil pan drainage hole. Use a wire brush. Use WD-40 spray.



12 Unscrew the drain plug. Use a drive socket #17. Use a ratchet wrench.



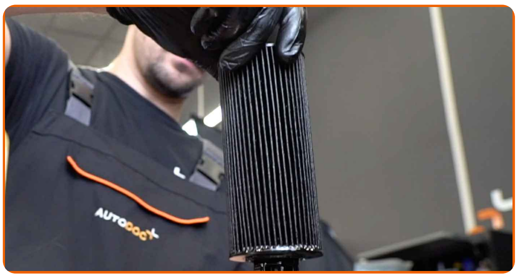
13 Drain the used oil.



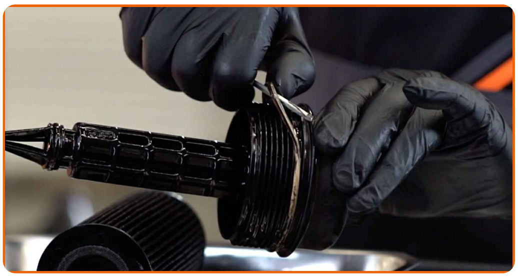
Replacement: engine oil and filter – BMW E90. Tip from AUTODOC:

- Caution! The oil may be hot.

14 Detach the oil filter from the filter cover.



15 Remove the oil filter cover O-ring. Use a flat screwdriver.



16 Clean the oil filter housing cap. Use all-purpose cleaning spray.



17 Install a new O-ring to its mounting seat on the filter cover.



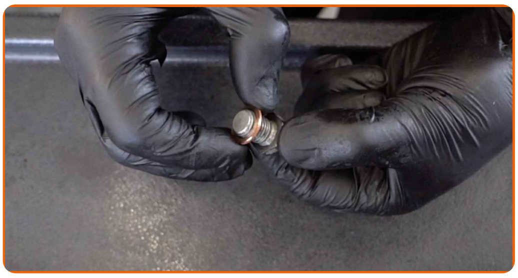
18 Install the new oil filter to the mounting seat on the filter cover.



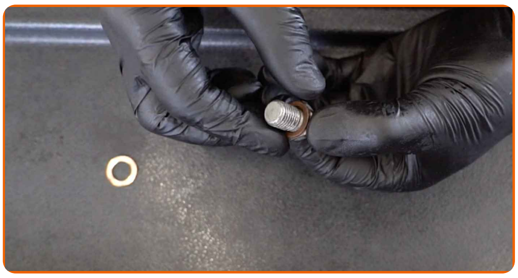
Please note!

- Make sure to install the filter correctly. Don't mix up the sides of the part.

19 Remove the O-ring from the plug.



20 Clean the plug and put a new O-ring on it.

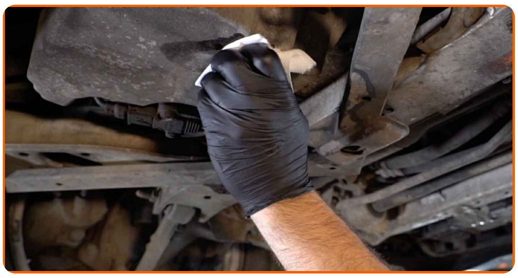


Replacement: engine oil and filter – BMW E90. Tip from AUTODOC experts:

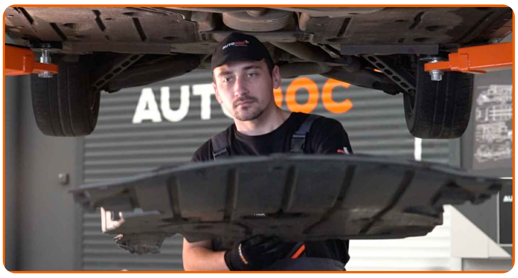
- Wait until the oil has completely drained from the drainage hole.

21 Screw in the new drainage plug and tighten it. Use a drive socket #17. Use a torque wrench. Tighten it to 25 Nm torque.

22 Clean the area of the oil pan drainage hole.



23 Reinstall the oil pan lower cover.



24 Tighten the fasteners of the oil pan lower cover. Use a drive socket #8. Use a ratchet wrench.



25 Lower the car.

26 Remove the microfibre towel from the oil filter housing.



27 Lubricate the rubber seal of the new filter with a little amount of fresh oil.



28 Screw the new filter into its place.



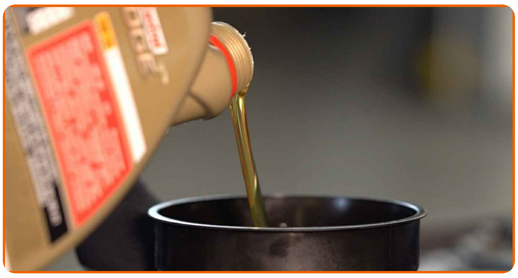
29 Screw the cap. Use a drive socket #36. Use a torque wrench. Tighten it to 25 Nm torque.



30 Remove the oil filler cap. Insert the funnel.



31 Pour oil into the engine through the filler. Required amount of oil: 5.5 l.



Replacement: engine oil and filter – BMW E90. AUTODOC experts recommend:

- Use the oil recommended by the manufacturer.

32 Check the oil level using the dipstick. Top up oil if necessary.



Please note!

- The oil level should be between the Min and Max marks.

33 Tighten the oil filler cap.

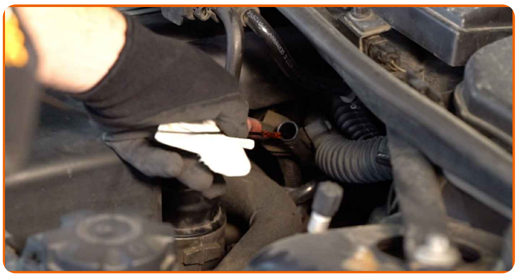


34 Run the engine for a few minutes. After the oil pressure warning light goes out, stop the engine.



35

Check the oil level 5 minutes after the stop of the engine operation using a dipstick and add oil if necessary.



Please note!

- The oil level should be between the Min and Max marks.
- Make sure that the oil filler cap is properly tightened.
- Check the threaded plug of the drainage hole and the oil filter seal for tightness. If necessary, carefully tighten them up.

36

Remove the fender protection cover.



37

Close the hood.



Replacement: engine oil and filter – BMW E90. Tip:

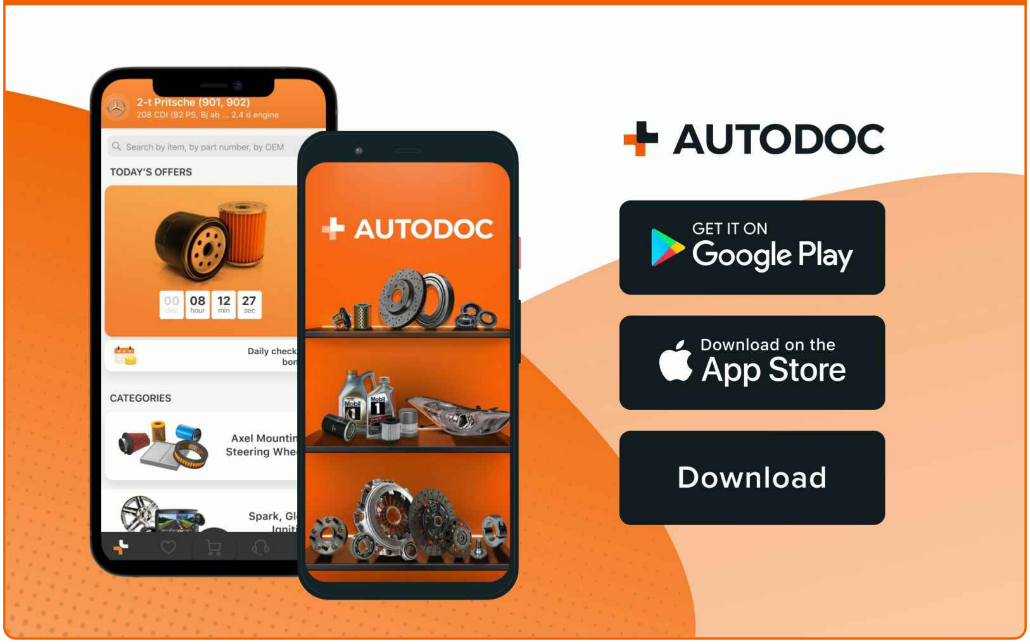
- Note that oil pressure warning light, which indicates insufficient pressure in the lubrication system, may be on for a longer time than usual. After a few seconds, the oil will fill all the channels, and the light will go out.
- To protect the environment from pollution, be sure to dispose of the used filters at special collection points.

WELL DONE!

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